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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,895	12/08/2000	Hyeon-Ho Son	8733.337.00	1204

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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,895

Applicant(s)

SON, HYEON-HO

Examiner

Dung Nguyen

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 21 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 10-14, 19-21, 27-31 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-4, 6-9, 15-18, 22-26, 32-34, 36 and 37 is/are rejected.
- 7) ☐ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 08 December 2000 is/are: a) ☒ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election of species (A) in Paper No. 8 (dated 04/21/2003) is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

In light of the election of species made by Applicant, claims 10-14, 19-21, 27-31 (instead of claims 22-26) and 35 are withdrawn from consideration since those claims draw to a liquid crystal display in which pixel electrode having a concave shape side edge portions.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the center electrode is formed in the same layer as the gate line (claim 5) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-4, 6-7, 15, 22-24, 32-34 and 36-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Young, US Patent No. 6,441,873.

The above claims are anticipated by Young's figures 1-2 which disclose a liquid crystal display (LCD) device (figure 1) comprising:

- . first and second substrate (12, 11);
- . gate and data lines (20, 21) formed on the first substrate (12);
- . a switching device (thin film transistor TFT 18);
- . a pixel electrode (45) formed on the first substrate (12), wherein the pixel electrode having slits (depressions 50 and bordering pixel 10 corresponding to the data line 21) and the side edge portions being bent toward the second substrate (11) (i.e., convex shape);

Art Unit: 2871

. a common electrode (16) formed on the second substrate (11), wherein a first distance of a central region of the pixel electrode from the common electrode is greater than a second distance of the side edges of the pixel electrode from the common electrode (figure 1);

. a center electrode (35) formed below slits (50) and same layer as data line (21), wherein the center electrode (35) electrically connected to the common electrode (16) (according to driving LCD);

. a twisted-nematic liquid crystal layer (15) (col. 6, ln. 57).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8-9, 16-18, 25-26 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young, US Patent No. 6,441,873, in view of Applicant admitted prior art (APA), figure 5.

Regarding claims 8-9, 16-18 and 26, Young discloses the claimed invention as described above except for a rib forming on the second substrate. APA's figure 5 does disclose a rib (19) formed a common substrate (17) to define multi-domains. Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ a rib on a substrate opposed to a pixel electrode substrate as shown by APA in order to improve a wide-viewing angle in an LCD device.

Regarding claims 25 and 38, the modification to Young disclose the LCD having the rib forming on the second substrate as described above; the modification to Young does not disclose the LCD device including at least two ribs. One of ordinary skill in the art would have realized the desire to form at least two ribs over pixel electrodes for forming multi-domains in the pixel electrode (e.g., more than four domains in each pixel electrode). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the Young 's LCD device as a multi-domain LCD device because it is a common practice in the art to improve a wide-viewing angle in a multi-domain LCD device.

Allowable Subject Matter

8. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record discloses or suggests alone or in combination that an LCD device in which a pixel electrode having a slit and a convex-shaped side edge, a center electrode forming below the slit and same layer as a gate line as set forth in claim 5.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2871

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 703-305-0423. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7726 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

DN
July 14, 2003

A handwritten signature in black ink, appearing to read 'Dung Nguyen', with a stylized, cursive script.

Dung Nguyen
Patent Examiner
Art Unit 2871